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ABSTRACT

Three papers are presented from a conference on governmental and economic affairs held at the University of Arkansas at Little Rock. In "Federal Legislation and Higher Education," John P. Mallan pointed out that the major portion of funds is channeled through student aid programs, and research and development funds are concentrated in a few institutions. Proposals for accessibility to federal research funds are presented, and federal regulations for which the Federal Government pays no implementation costs are discussed. In "Financing Post Secondary Education: Expenditure Priorities and Tax Effort and Ability of State and Local Governments," Kenneth E. Quindry recommended that tuition and fee support be stabilized as to relative share and that such support be equalized according to ability to pay. Criteria for optimum tax systems are presented and related to current taxation with the southern region. Southern Regional Education Board studies of state and local tax ability and tax effort are discussed. In "Population, Occupational and Economic Factors Related to Higher Education," Forrest H. Pollard describes demographics of population growth and migration. Population groups, enrollment patterns, education attainment, occupational employment, and per capita income for the state of Arkansas, for Pulaski and adjacent counties, and Little Rock-North Little Rock Standard Metropolitan Statistical Area are presented. (SW)

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Perspectives in Higher Education:

Background Papers on Governmental and Economic Affairs

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University of Arkansas at Little Rock

Perspectives in Higher Education
Background Papers on Governmental and Economic Affairs

Spring 1978

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Preface

In the development of comprehensive and strategic plans for institutions of higher education, there are many issues that bear on the decisions to be made. Two issues out of the many that affect post secondary education were the subject of a conference held May 9, 1978 at the University of Arkansas at Little Rock. Papers concerning governmental and economic affairs were presented and this publication presents the work of three speakers.

John Mallan, assistant executive director for governmental relations, American Association of State Colleges and Universities, summarized patterns of federal funding. The major portion of funds is channeled through student aid programs. Research and development funds are concentrated in a few institutions and Dr. Mallan presented proposals for accessibility to federal research funds. Federal regulations for which the federal government pays no implementation costs were highlighted. Dr. Mallan concluded that no changes are anticipated in the patterns of funding or in legislative intent by the federal government regarding higher education in the future.

Kenneth E. Quindry, research professor, Center for Business and Economic Research, University of Tennessee, spoke on "Financing Post Secondary Education: Expenditure Priorities and Tax Effort and Ability of State and Local Governments." He recommended that tuition and fee support be stabilized as to relative share and that such support be equalized according to ability to pay. Southern Regional Education Board studies of state and local tax ability and tax effort showed that there is not equity between these two measures in Arkansas with tax effort less than tax ability. Dr. Quindry presented criteria for optimum tax systems and related them to current taxation within the southern region. He also discussed the issues of education as a state priority and competition among various groups within education and welfare for legislative appropriations.

Forrest Pollard, senior research specialist, Industrial Research and Extension Center, University of Arkansas, described demographics of population growth and migration. Population groups, enrollment patterns, education attainment, occupational employment and per capita income for the state of Arkansas, for Pulaski and adjacent counties, and Little Rock-North Little Rock Standard Metropolitan Statistical Area were presented. Forecasting career planning and educational programs based on population distribution is a focus for planning. The year 1980 presents a time of change and adjustment for higher education because it follows a period of extraordinary growth and expansion in terms of student enrollment.

This publication contributes to a better understanding of the impact of higher education on governmental policies, state and local revenue utilization, and legislative concerns. Planning for higher education is based on a full understanding of the issues raised by external economic and governmental forces.

Shirley J. Pine
Editor

Federal Legislation and Higher Education

John P. Mallan
Assistant Executive Director
for Governmental Relations
American Association of State Colleges and Universities

It is often said that there is no overall federal policy for higher education. Rather, there is a series of fragmented policies, serving different national purposes, conceived at different times and in response to different pressures. There is, however, one emerging policy — an emphasis on student aid. In the federal programs specifically thought of as serving higher education, (as opposed to the large number created to serve some special purpose such as heart disease research), there is a growing emphasis on student aid as the principal way to assist higher education.

This is clearly shown in an analysis of federal programs affecting higher education made by Chester E. Finn, Jr., for the University Committee on Rational Alternatives. Finn reviewed the fiscal year 1976 federal budget, and concluded that about $13 billion went to higher education. Of that total, about $9 billion was in the form of student aid and about $4 billion as aid or payments to institutions of higher education.

The principle forms of student aid in that year were about $4.6 billion for the G.I. Bill (for many years the largest student aid program), almost $1 billion for social security payments to students (a very large and little known program), about $840 million for the Basic Educational Opportunity Grant (BEOG) program, and almost $1 billion for other campus based student aid programs, $452 million for the Guaranteed Student Loan program, $293 million for health training, and about $556 million for Defense Department Education programs — largely the service academics, including ROTC.

Under payments to institutions, Finn reported $2.4 billion for research and development conducted in colleges and universities and $534 million for health programs other than training.

For fiscal year 1979, the budget is likely to be similar in its impact on post secondary institutions. If one assumes that an additional $1.5 billion will be added to student aid as a result of the new Middle Income Student Assistance Act favored by the Carter administration and education committee leaders in Congress, student aid will probably total around $9-10 billion. The BEOG programs will increase to $3.4 billion, the other campus based programs to well over $1 billion, and the Guaranteed Student Loan program to around $750 million. Social Security payments to students will be substantially over $1 billion. But the GI Bill is expected to fall to around $2.6 billion.

Payments to institutions will not increase in fiscal year 1979 more than in fiscal year 1976 — perhaps $5 billion. The emphasis will clearly continue to be on student aid. There have been some increases in research funds in a number of programs, and some reports about the need to strengthen basic research, but any additional funds will not represent a major policy change like that which followed Sputnik or which came with the Great Society of the sixties. And part of the dollar increases must be discounted because of inflation.

Fifteen billion dollars for fiscal year 1979 represents about a third of the total funds spent on higher education by federal, state, local, and private sources. To these amounts Finn and others add tax expenditures — the amount which higher education gains by tax deductions and exemptions. He estimates that this was almost $2 billion in fiscal year 1976. It would be more today.

However, much of the $15 billion in direct federal expenditures is not available for meeting the costs of instruction, especially at public colleges and at the undergraduate level. Apporximately $9 billion in student aid funds goes for living costs, so that it is, in a sense, aid to grocery stores and landlords rather than aid to colleges — although, of course, it is necessary for many people to attend college.

More important, almost all federal student aid is restricted in one way or another to achieve specific federal purposes. It is not general aid which colleges can use freely for instruction or other purposes. Student aid under the US Office of Education (USOE) programs is based on needs and goes to the neediest students, not to all. Up to now, USOE programs have largely been limited to students from families below about $14,000 annual income, and most aid to those below about $10,000. A result is that many colleges with large middle-income enrollments ($14,000-$25,000) receive relatively little student aid.

Under student aid programs, public colleges do not do as well proportionally as private colleges and profit making schools because public colleges charge lower tuition. As a result, the student usually gets less aid, and the college captures less of it in funds for instruction than private colleges do.

The new Middle Income Student Assistance Act is currently under Congressional review and if it becomes law, will provide substantial aid to families with incomes up to around $22,000, and some aid up to $25,000. This is about 80 percent of all families, and should provide considerably more funds in student aid at many colleges.

The pattern of student aid support does not entirely reflect the pattern of student attendance. In the non-profit sector, about 80 percent of all students attend public colleges and community colleges. Public college students receive about 75 percent of BEOG funds, and a smaller percentage of the other USOE (campus based) funds. Some public college students receive lower BEOG grants than they otherwise would because of a funding formula known as "half-cost," which is deliberately intended to hold down

aid to public students in order to make private higher education more attractive. Similarly, the formulas in the other programs are tilted somewhat toward more aid to students at higher tuition colleges. Taxpayers in lower tuition states like Arkansas pay twice — once for their own institutions and once to provide more student aid to higher priced institutions in other states.

GI Bill payments have been skewed in the opposite way. In recent years, a very large portion of all veterans attending non profit colleges have gone to public colleges — over half of them to community colleges.

With all of its problems, student aid is still the main source of aid to most institutions of higher education. Most of these colleges probably get far more aid each year from these programs than from federal research grants, but they may not realize it. Student aid is less visible and less understood than it ought to be to administrators and faculty at many colleges.

Most aid to institutions is also skewed in another way. Finn estimates that of the approximately 3,000 colleges and universities in the United States, about 100 regularly receive about 85 percent of all federal research money! He also estimates that only one college in five receives funds under federal research grants.

This "Top 100" list of institutions of higher education receiving research monies is published every year by a federal agency. It includes the major public and private research universities we are all familiar with — not only Harvard, Massachusetts Institute of Technology and Stanford, but Michigan, the University of California at Berkeley, and the University of Washington. There is a fairly heavy concentration of funds going to the northeast and west coast.

Many people defend this concentration of federal research funds. If you want to solve the problem of cancer or send rockets to Mars, the argument goes, you should buy the best research services available. There is some merit to this argument, although one is not sure how much. An organization such as the American Association of State Colleges and Universities (AASCU) represents a large number of institutions that are strongly oriented toward undergraduate programs. Many have graduate programs, and some conduct considerable research.

Many of these institutions have faculty and facilities to conduct productive research. Indeed, the faculty job market today is such that most colleges can hire experienced research scholars. Faculty at these institutions, we in AASCU believe, need a fair chance at research funding. AASCU has particularly opposed the kind of "old boy" network which exists in many of the disciplines, and which can mean that federal funding of research and development projects depend on peer reviewers and panelists who attended the same graduate schools (often the "Top 100").

AASCU has worked for two years with some success to open up these closed arrangements to other scholars. In 1977 members of the AASCU Committee on Science and Technology met with National Science Founda-

tion leaders who agreed to accept as possible reviewers and panelists some 700 faculty members at AASCU institutions recommended by their colleges as capable researchers. The NSF accepted these names enthusiastically and has used a number of them. AASCU submitted several hundred additional names in 1978. Other AASCU committees have taken the same steps with the National Foundations on the Arts and Humanities, and anticipate working with other federal agencies as well.

AASCU has also worked with Congressional leaders to win funding under NSF for smaller research projects — especially those oriented toward undergraduate education and toward continued funding of the science education programs which several administrations have tried to modify or eliminate. AASCU does not in any way oppose the funding of basic research at major universities. The argument is simply that there are talented scholars at many institutions across the land, and that talented students at all institutions must be attracted into the sciences and other academic disciplines. Funding Harvard will not produce many more scientists from Arkansas.

AASCU is also working on other legislation which should make it possible for higher education institutions such as the University of Arkansas at Little Rock to play a more effective role not only in research but in the solution of social problems. Over the past year, with the strong support of UALR Chancellor G. Robert Ross, assistance has been given to amending a proposed Urban Grant University bill to make a broader range of urban institutions eligible for assistance. The original bill was intended to stimulate institutions to provide education, research, and services for the resolution of urban problems. Participation was limited to institutions with major graduate and research programs located in metropolitan areas of at least 500,000 population. The effect would have been to eliminate many institutions with major programs in urban areas, and indeed to eliminate many cities and whole states (including Arkansas) from participation.

AASCU feels that it has a commitment from most of the sponsors of the Urban Grant University bill to accept amendments to broaden participation. The bill is scheduled to be acted on in 1979 and our office will continue to watch the situation. There are similar problems with bills involving colleges with agricultural programs regarding international agricultural development. Again, the original bills limited participation to the land grant universities, although a substantial number of other colleges have agricultural programs and are very interested in participating. Here again, Congress broadened eligibility in the program, and a member of an AASCU institution now sits on the advisory board for this program.

However, even these moves to broaden eligibility have not changed the overall picture. A very large part of all research funds and comparable payments to institutions still goes to a very small number of institutions. Student aid continues to be provided in a way which does not provide colleges, especially public colleges, with a substantial amount of funds to

assist in the education of their students. AASCU continues to support institutional aid such as the "cost of education" program which became law in 1972, but has never been funded. This would provide aid to universities and colleges based on the number of federally aided students in attendance, but this and similar programs have never been funded.

Congress continues to prefer student aid over direct institutional aid, and is likely to increase student aid substantially. Congress has also shown strong interest in a tax credit proposal and the votes appear to be present to pass such a proposal, although not necessarily to override a presidential veto. Tuition tax credit, if it does pass, is another indication of the continued interest in a form of student aid.

We at AASCU must persuade Congress that student aid is not enough and that colleges need additional resources if they are to provide an education for the students funded by the aid authorized by Congress. Congress must be persuaded that student aid in its present forms does not do enough for public colleges — that the half-cost feature in BEOG and other features mean that public college students receive proportionately less under many student aid programs, and certainly public colleges do not receive as much assistance toward instructional costs.

The same will probably be true of tax credits, since tax credits oriented toward tuition alone give less aid at lower-tuition colleges, and since persons outside of Congress and some in Congress are supporting a tax credit which would pay 25 percent of tuition, assisting public college students far less than private college students. Public higher education needs to present its case as effectively to Congress as many private and profit-making spokesmen have presented theirs. I believe it is not yet doing so.

One final point needs to be made about federal policy toward higher education. In addition to not giving colleges funds to carry on services such as instruction, Congress (and the executive branch) add to institution costs by regulations and legislation. A good recent case is the raising of the mandatory retirement age to 70 years, including tenured faculty. We all recognize that this was done to prevent a particular form of discrimination, but it is likely to cost colleges more money in terms of the higher salaries and benefits which will probably have to be paid to senior faculty for a longer time. It can also have undesirable consequences on the promotion of younger people. Without spending a cent in federal money, Congress may have imposed an increased financial burden on all of higher education. Similarly, one can mention other current legislation which has imposed higher costs, or probably will do so, without compensating federal aid. Examples include the removal of architectural barriers for the handicapped; higher Social Security taxes for employers as well as employees; energy conservation requirements; and the costs of affirmative action. These laws are intended to serve social purposes with which most of us would agree, and they are often not even thought of in terms of higher education. They

add to institutional costs. Much of our time at AASCU in Washington is spent trying to modify such laws and regulations or trying to obtain federal funds to meet the additional costs they impose.

In conclusion, I see the federal government as an important partner to higher education, but hardly as a savior — again, especially in meeting the costs of undergraduate and graduate instruction, and especially at public colleges. I believe we will see a continued growth of student aid programs, continued problems in trying to extend institutional aid and research programs to a wider range of colleges, and continued problems with federally imposed costs. I see no major breakthrough in federal aid to higher education at this time. But there is a proverb applicable here — "Waiting for the Messiah is steady work."

Financing Post Secondary Education Expenditure Priorities and Tax Effort and Ability of State and Local Governments

Kenneth E. Quindry
Center for Business and Economic Research
University of Tennessee

Introduction

The basic economic and governmental problems in society are the scarity and the allocation of economic resources. The primary producer and allocator of goods and services is the private economy. Individuals and business firms largely determine how and in what quantities goods are produced and how human and natural productive resources are developed.

However, private market allocative and developmental solutions are not applicable in some areas of production and distribution (e.g., highways and streets). In other areas, complete dependence on private market decisions results in an undesirable level of production (e.g., education). In still other areas, private sector allocations under modern economic and social arrangements have undesirable results that restrain economic well-being and development (e.g., business cycles, monopolistic tendencies and natural resource use and conservation). Private sector inadequacies can be minimized by the proper governmental actions.

Both the private and the public sector decisions are guided by common economic and social objectives. The primary purpose of government is to balance the economic and social interests with needs of the citizens. Their economic and social well-being and development depend on the relative size of the public sector, the method of raising public funds, and the priorities for spending them. The allocation of economic tasks between the two sectors largely determines the performance of the total economy. If the public decisions that affect the private economy are appropriate, society achieves a balance that would be impossible in the absence of either sector.

One of the major preoccupations in our society in recent years has been the equitable distribution of the benefits and costs of government. Meeting this requirement places heavy demands on public planners. Government activities both reduce the potential for citizen well-being (taxation) and increase it (expenditures). These activities must be accurately coordinated to achieve maximum public well-being which is the basic goal of government. The tax system must be structured to minimize the loss of well-being. On the other hand, expenditure priorities must be structured to optimize the benefits of public expenditure. If the public sector is optimized in terms of size, tax and expenditure priorities, marginal costs (to the private sector)

equal marginal benefits (of public expenditures) and public welfare is maximized.

Government must take resources from the private sector in order to support the public sector. Taxation is the system whereby citizens pay the cost of government. The cost of government, assuming full employment of economic resources, is measured by the resources surrendered by the private sector (in taxes) to pay for government goods and services. Costs can be measured in dollar terms (of taxation), but they are more accurately measured in terms of the value of the dollars surrendered. That is, the cost of government varies according to whose dollars get taken in taxation as well as according to the number of dollars. A dollar in taxation taken from a low income family has a different effect on economic and social welfare than does a dollar taken from a wealthy family. A dollar taken from a business may have an effect widely different from one taken from an individual. Tax dollars should be maximized and private costs minimized.

Likewise, the establishment of expenditure priorities can have widespread effects on the efficiency of the economic and social life of the state. Stated simply, the public sector is designated to perform necessary economic functions that the private sector does not perform or performs at a level below the optimum, and to distribute equitably the fruits of its activities. Equitable distribution of public services maximizes gains from public expenditures.

One of the most challenging problems in the strategy for coordinating tax and expenditure programs is the financing of post secondary public education. This financial program is highly significant both in terms of the general support level and the distribution of services among the citizens.

However, just as there is no reliable way to determine precisely the size and composition of the public sector, there is no reliable way to determine precisely the optimum support level and the distribution of post secondary public education. In both cases we are limited to comparing and evaluating the fiscal performance of the 50 states. Such comparisons are the subject of the rest of this report.

The Federal Role

One important fiscal policy question in financing post secondary education involves the federal role. Federal financing expanded significantly in the 1950's, peaked about 1967, and declined relatively into the 1970's. Hopefully the decline has been arrested, but there is little hope of any significant increase in relative support.

The federal preoccupation with urban problems, socialized health insurance, other so-called uncontrollable indexed federal programs, and other human resource programs minimize the chances for financial support for the less politically palatable post secondary education programs.

For example, federal health outlays increased by 28.9 percent per year from 1966 to 1976, from 0.4 percent of the gross national product (GNP) to 2.1 percent.[1] Witness also the recent interest in solving urban problems by infusing additional federal funds. While defense spending is not expected to grow in relation to the GNP in the next few years, neither can it be expected to decrease much from the current 5.4 percent of the GNP. Moreover, the federal budget is in a "runaway" situation with no hope of balance in the near future. Pressures to reduce federal taxes and to restrain the budget deficit will inhibit expenditures on "controllable" federal programs.

The Role of Tuition and Fees

The immediate and primary goal in respect to tuition and fee support perhaps should be to stabilize the relative share of financing from this source and to equalize it according to ability to pay. Any additional shift toward larger state support and away from student self support is less critical than is commonly assumed. It is the regressiveness of the financing that is critical. When we examine the full range of financing, it is clear that in many states the costs paid through tuition, fees and taxes are income regressive. The time has come to attack this situation with every tool we can muster.

Perhaps more equitable financing in both areas would increase a state's attendance performance. Tuition and fees graduated according to income level would equalize the direct outlay and proportional or progressive taxation, the indirect outlay for students at every income level. Along these lines, some thought should be given to assessing tuition and fees to cover all current operating instructional costs and to providing liberal support grants, rebates and/or credits for tuition and fees based on relative ability to pay.

The Role of State Support

Assuming that federal participation is not likely to improve, that student self support will not, and that real needs will continue to grow, states will be forced to play an increasing role in financing post secondary education. This will happen not because they have greater fiscal ability than other potential financing sources but because these other sources are no longer willing to support the growing real needs.

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1. Rudolph G. Penner and Lawrence J. Korb, *The Budget in Transition, From Ford to Carter to Congress* (Washington: American Enterprise Institute for Public Policy Research, 1978), p. 112

The outcome of all of this is that the solution of the fiscal problems of post secondary education are dependent upon the condition of the states' finances and legislative determination of priorities. State fiscal policy alternatives are interrelated and subject to divergent interpretations. Legislatures will be willing to spend available funds on post secondary education if they are convinced that the expenditure is preferable to tax restraint or reduction of expenditures on alternative programs. The alternative fiscal decisions are decided by the skill of the petitioners in presenting their case and in demonstrating the superiority of their requests over other worthy ones. There are many obstacles to be overcome if taxes are to be raised or priorities changed to support post secondary education.

In summary, if there is any substantial improvement in financing post secondary education, it will have to come from the state treasury. It is not really a case of whether or not states can provide adequate financing, but whether or not they will. In this respect the attitudes of state decision makers are critical.

Recent Experience in Support of Post Secondary Education

It is almost universally believed that the southern states generally lag in the support of post secondary education. Most studies apparently support this view and we cannot argue with the statistics. We doubt, however, that the conclusions are as clear-cut as many educators would have us believe.

It is not an easy task to evaluate financial support of this nature for at least five reasons. We mention them here without comment only because they may offer evidence that the southern states could well afford to examine their efforts in financing post secondary education. They are as follows:

(1) the role and scope of public service and research in public post secondary education

(2) the relative dependence on private institutions

(3) the organization for delivery of the services

(4) the relative percentage enrollment of the college age population

(5) the regional differences in cost of delivery of the services

Tables 1, 2 and 3 examine the first four of these criteria. There are no adequate state cost indexes to make cost comparisons.

The data in Table 4 presents the experience of eleven southern states and the average of the 50 states in supporting post secondary education. In this respect, the performance of southern states seems adequate. The data, however, does not indicate per-student support, but the priorities set on post secondary education in relation to other state functions and in relation to the states' general revenue. They may reflect inadequate support for public service and research (low quality), inadequate organization, or any number of other things.

Moreover, it is not appropriate to argue that data on full-time equivalent (FTE) student support in Table 2 is an accurate reflection of state support. The data measures education and general expenditures only. Even these figures do not show all southern states in an enviable position.

Up to this point we have related only to the support levels. We have not indicated in any fashion either the effort or the ability of the respective states in support of public services, including post secondary education.

Both ability and effort vary significantly among the 50 states. A state is justified in exerting a low tax effort only if low tax rates will provide adequate, high quality services. This situation is highly unlikely in southern states where ability is generally low. In fact, it is commonly alleged that both effort and the quality of public services are low among these states. Thus it seems reasonable that they would want to examine their effort in relation to ability and the effect this has on the quality of public services — in this case post secondary education.

The Ability and Effort to Collect Taxes

The ability of a jurisdiction to collect taxes is difficult to define and even more difficult to measure. In any event, ability must always be viewed in relative terms. In plain terms, ability is reflected in the aggregate of all taxable economic resources and activities within the jurisdiction. Ability among jurisdictions is generally measured by comparing major tax bases for which data are uniformly available or by comparing revenue generated from the bases against which a set of uniform rates is applied.

The major resources subject to taxation are corporation and individual income, wealth, and production and transfer of economic goods and services. Tax effort is the extent to which these resources are levied. Both ability and effort can be stated in per capita amounts or amounts per $1,000 of personal income and indexes computed in which the 50-state average is equal to 100. Vertical comparisons reflect the relative abilities and efforts of the states. An equally meaningful comparison involves determining effort as a percentage of ability (horizontal comparisons) and then comparing the results, either as percentages or as indexes in which the 50-state average percentage is equal to 100.

The Southern Regional Education Board (SREB) Estimates of Ability and Effort

In selected years after World War II and annually since 1967, the SREB has published a report measuring state and local tax ability (potential) and tax effort (collections). The extent to which states tap their available resources is measured, but the burden placed upon the residents is not. The reports are basically representative tax studies because a uniform set of rates is applied against selected tax bases (primarily personal income) to compute potential tax collections (ability). Collections (effort) are related to potential collections (ability) in order to measure relative tax performance for the 50 states.

Ability is truly a relative measure because the rates applied are average, not maximum, rates. States can, and all do, apply above average rates for one or more tax sources, and thus overutilize their measured ability. By the same token all states underutilize particular tax sources. In a few states, the aggregate of overutilizations exceeds the aggregate of underutilizations and the tax system is overutilized. In the other states the opposite situation is found.

No effort is made to evaluate critically either overutilization or underutilization of the taxes, but the implication is clear. A large number of states, and every southern state, could increase state and local tax revenues by applying all major taxes at average rates. However, it may not be economically sound or politically wise to do so. The following statistical analyses are based on the SREB reports.

SREB Methodology in Brief

The SREB methodology can be described in three steps. First, state and local tax collections are gathered for 15 categories of taxes. This represents tax effort. Secondly, potential collections (ability) are computed by applying a uniform rate in every state to a proxy tax base. Abilities for the 15 tax categories are aggregated. Thirdly, the effort is subtracted from the ability in order to measure the degree of underutilization or overutilization for each tax and for all categories. If ability exceeds effort then a tax is underutilized according to the average of all states using the tax. If effort exceeds ability the opposite is true — the tax is being overutilized. When underutilizations and overutilizations are netted out, some states are overutilizing their ability — others are underutilizing. The percent of utilization of tax systems for the SREB states and the average for the 50 states and six geographic regions for 1976 is presented in Table 5. Dollar amounts of underutilization are given for 11 southern states for selected years in Table 6.

Utilizing the Underutilization

The preceding tables indicate significant and growing underutilization of tax ability in the southern states. The question then arises as to why these states do not increase their tax efforts and improve the level of public services. Some reasons are alluded to later, but now we will review the possible financial stimulus of the unrealized potential revenues.

In Table 5, the performance of the SREB states and the averages for the 50 states and six geographic regions is presented in terms of percentage of ability they utilized in 1976. Arkansas is estimated to have utilized only 73.5 percent of its ability, the lowest of the 50 states and well below the SREB states' average of 80.9 percent. Arkansas' ability by the SREB measure was $1,322.8 million in state and local tax collections. Only $972.4 million was collected, leaving an unutilized amount of $350.5 million.

Data in Table 6 indicates that underutilization is both significant and growing. In Arkansas the amount grew by over 350 percent from 1967 to 1976. In the decade, tax collections increased (by 146.7 percent) but ability increased more rapidly (by 189.3 percent). Arkansas' utilization rate decreased from 86.2 percent in 1967 to the current 73.5 percent. Taxes per $1,000 of personal income declined from $9.54 to $9.36 for Arkansas and increased from $9.88 to $11.97 for the 50-state average.

While it would not be realistic to expect that if the underutilized amount were levied it would all be available to the state for appropriation for post secondary education, one could expect that some of it would be appropriated. The data in Table 7 was prepared with the assumption that the post secondary education priorities for the additional amounts for eleven southern states would be identical to the priorities from other general revenues. The data is for the 1972 fiscal year. For example, in 1972 the Arkansas legislature appropriated 12.6 percent of its state general revenues from its own sources to higher education. It is assumed then, that 12.6 percent of the unutilized potential of $205.4 million would be appropriated for education. This would amount to $25.9 million, a potential increase in that year of 24.9 percent expenditure for institutions of higher education.

What could an additional $25.9 million for post secondary education accomplish in Arkansas? Two alternatives are suggested in Table 8. First, $657,000 could be used to raise the average FTE student support for instruction to the 50-state average. Also, $16,661,000 could be used to finance additional students up to the 50-state average enrollment of the 18-34 age group in the population. There are, of course, many other potential uses for the funds.

Source of Underutilization in Arkansas

With few exceptions, states depend on three basic sources for tax revenue with varying relative dependence. They are consumption (sales),

income and property. Table 9 lists the percentages of taxes from major sources for the SREB states and averages for the 50 states and six geographic regions for 1976. By comparison, Arkansas' dependence on property taxes is light. That on income taxes is about average and on sales taxes a little below the 50-state average.

Given this distribution of dependence, the major underutilized funds are in property taxes (see Table 10). Underutilizations in lesser amounts are found in several taxes, led by the individual income taxes and the selective sales taxes (excluding the motor fuels sales taxes).

A Critical Analysis of Taxes and Tax Systems

The above analysis is not meant to be a plea for higher taxation. It merely quantifies the additional public financial support available at average tax rates. If the support of post secondary education is to be increased, two avenues are available: taxes can be raised or priorities can be changed. We have investigated only one of these possibilities.

Despite the significant and growing underutilization of tax ability in many states and the possible below average service levels, questions may arise as to the economic wisdom and political appropriateness of increasing taxes, no matter how great the worth of the public programs to be supported. The adage that a high level of public services and economic development go hand in hand is now being questioned by many analysts and citizens. The belief is growing that taxation is siphoning off private funds that could be used more efficiently by the private sector. Additionally, it is claimed that the funds are ineffectively utilized by the public sector.

One of the primary reasons for the growing financial conservation is the tax system itself. As long as the state and local system is considered inequitable, too burdensome, or too high, it will be difficult for legislators to justify tax increases.

Time does not permit a full analysis of the Arkansas system. We will list several basic criteria of a good tax system that ought to be used to evaluate it. They spring primarily from the two-century-old criteria offered by Adam Smith. He listed certainty, convenience, economy, and equity as the basic criteria. We state them in basically the same but more modern language in the following paragraphs.

Elements of a High Quality Tax System

It is difficult to generalize as to what constitutes a good tax system for all times and places. If one believes average performance approaches the ideal, then the average 50-state distribution of Table 9 could be considered ideal.

But the specifics of the taxes are ignored in this assumption. All sales taxes are not identical, for example, and all 50 tax systems may fail to meet certain basic criteria. Finally, conditions change and states differ as to their economic, political and social characteristics.

Even within states differences exist. Nevertheless, certain basic principles are universal in application. They are presented as guidelines for evaluating the Arkansas tax system. The closer the tax system comes to meeting the ideals the more acceptable a tax increase will appear. Any increase should be coupled with reform with these goals in mind.

Adequacy can be defined in relation to the size and growth rate of the state economy.[2] The relative size of the public sector is determined through the economic and political processes. Tax revenues must be adequate to meet current public expenditures. The tax revenues grow naturally as economic activity grows. They should also grow rapidly enough to finance expenditure needs without the need for frequent legislated rate and base changes. The relationship of the growth of taxes to the growth in the economy (responsiveness or elasticity)[3] depends on the component taxes in the system. Taxes and tax systems can be responsive, unitary or unresponsive, depending on whether revenues grow at a rate in excess of, equal to or less than the growth of the private economy. Whether a state/local tax system should be progressive, proportional or regressive in distribution is a matter of speculation. Many economists believe state/local taxation should be proportional or near proportional and that the responsiveness to economic growth should be near unity (the public and private sectors should grow about equally in percentage terms). The two concepts are generally positively related.

Equity is an even more complex concept. Equity can be viewed from the standpoint of the taxpayer, the administrator and the economist. From a practical standpoint, a tax system is equitable if the taxpayers believe they are being treated fairly. From the administrators' viewpoint, a tax system is equitable if it yields sufficient revenues to adequately support expenditure needs, if it is economical to administer (simplicity) and if taxpayer complaints are at a minimum. While these two views are perhaps equally as significant as a third one, economists are generally concerned with the third.

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2. Adequacy consists of two factors: productivity and responsiveness to economic change.

3. Elasticity is measured as the ratio of percent change in taxes to percent change in economic activity. If the ratio is greater than one, a tax system is said to be elastic. Tax revenue grows at a rate greater than that of the economy and the public sector becomes a larger proportion of the state economy. If the ratio is less than one (inelastic), tax revenue grows more slowly than the economy and the public sector becomes relatively smaller. A tax is progressive if the percentage of income paid in taxes increases as income increases. It is regressive if the tax liability decreases as income increases and proportional if the percentage remains unchanged at all levels of income.

In textbook terms, equity is defined as treating taxpayers in equal circumstances equally (horizontal equity) and taxpayers in unequal circumstances unequally in relation to their inequalities (vertical equity). This suggests that we can determine the incidence of each tax in the system.[4] It also raises the question as to how to measure equality and inequality. Should the measure be income, wealth, expenditures or a combination of factors? And how should we define these factors? The most common measure used is income. Once incidence is established for all taxes, once it is known who actually bears the burden of every tax dollar, we can relate it to a broad measure of taxpayer income. Income, then, is the measure of tax capacity and burden can be related to capacity by income class. Establishing tax incidence is necessary in order to determine whether a tax system is progressive, proportional or regressive.

Tax impact is also significant in discussing tax equity. Tax neutrality is not always the accepted goal of taxation[5] and tax impact can influence economic decisions in the private sector. Tax impact can be discussed in terms of balance.

(1) Taxes must be balanced between business and individuals. Only families and individuals have the capacity to pay taxes. Business taxes are finally borne by business owners, the consumers or the employees and furnishers of other business inputs. Business taxes can influence relative prices, wages and profits, and thereby business location decisions.

(2) Taxes must be balanced between the state and its subdivisions. The allocation of financial responsibilities should conceivably be determined by the allocation of administrative responsibilities. However, in many cases the state has a definite interest in local programs (e.g., education) and should share the financial responsibilities. This noncorrespondence of public funds with expenditures occurs when the state assumes tax authority in excess of its administrative obligations and authorizes less taxing authority to local units than their obligations demand. Because many taxes can be collected at the state level more efficiently than at the local level, this is usually justified. But correspondence must be restored by use of state-to-local fiscal transfers.

(3) Business taxes must be properly balanced among industries. The commercial, financial, manufacturing, etc., sectors must present balanced growth as determined by the state's resources. If taxes are biased against any industry, economic resources will be misallocated and economic develop-

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4. Incidence is defined as the point of burden of a tax after it is shifted as much as possible from the point of impact. For example, taxes impacting on business can be shifted to the consumer in higher prices, or to the factors of production in lower wages, rents, interest or profits.

5. Neutrality in taxation implies that taxation is used in a way that leaves the allocation of economic resources unaffected by the taxes, that economic decisions can be made on grounds of economic efficiency and not on tax grounds.

ment impeded. Employment and income suffer. The preferred system of business taxation is one which considers the government as a factor of production and charges business firms in relation to the costs of public services consumed (the benefits principle). By this method, taxes are rendered neutral as to the allocation of economic resources.

(4) Taxes must be properly balanced among personal taxpayers. This has reference to both the impact and the incidence of the taxes. The distribution may be progressive, proportional or regressive. If we accept that state and local governments are service oriented and that all taxpayers benefit equally from government according to their income, then an equal percentage of every income should be paid in taxes. (The incidence is proportional to income).

(5) Taxes should be properly balanced among the major tax sources — expenditures, income and wealth. This helps to insure that all taxpayers pay a reasonable share of the taxes. Some are rich in property but poor in expenditures and income. Others are rich in income but spend little and own little property. The choice of tax sources also has a decided effect on tax incidence and other equity factors.

Tax efficiency means that the tax system is as neutral as possible in regard to the private sector allocation of economic resources. Neutrality has already been referred to. The neutrality concept is often violated where specific incentives are desired to achieve selected economic or social goals, but in the main, the individual's decisions as to the use of economic resources should be independent of tax considerations. Private sector decisions made strictly on economic considerations promote optimum economic development (and employment and income). Attempts at state intervention must be carefully conceived and executed. Often the long run effects are directly opposite to what is expected.

Tax simplicity implies that taxes are relatively economical in regard to both administration and compliance. They are simple enough to be easily understood. Record keeping is kept at a minimum. "Nuisance" taxes, low in revenue, but expensive in administration and compliance, are kept to a minimum. Simplicity not only means that the law is easy to comply with, but that enforcement (auditing of taxpayer returns, etc.) is economical.

These criteria of adequacy, equity, efficiency and simplicity are sometimes in conflict with each other. From this conflict stem many of the disagreements about the optimum tax system. Moreover, these objectives must be balanced with taxpayer acceptability and political feasibility. Understanding the basic terms gives an overall philosophical framework within which to make practical decisions. Once they are understood and the current tax system evaluated accordingly, progress can be made toward establishing a revised tax system if the current system fails to meet the established criteria.

Table 1

Percentage of FTE Students Enrolled in Public Institutions and Percentage of Public FTE Students in Universities, Other Four-Year and Two-Year Institutions, by Region and by SREB State, 1972

Region and State	Public Institutions	Universities	Other Four-Year	Two-Year
New England	47.57	40.56	36.06	23.38
Middle Atlantic	59.34	23.75	44.06	32.19
North Central	76.57	53.11	24.66	22.23
SREB	79.58	35.48	39.56	24.96
Mountain	85.34	59.62	28.47	19.24
Pacific	87.79	20.40	26.01	53.60
U.S.	74.52	37.94	32.32	30.31
SREB States				
Alabama	83.66	33.88	42.40	23.72
Arkansas	83.89	45.09	50.68	4.23
Florida	80.10	27.56	18.46	53.98
Georgia	79.76	21.75	58.88	19.37
Kentucky	79.90	49.39	50.61	0.00
Louisiana	85.12	35.00	61.34	3.66
Maryland	80.75	43.79	22.95	33.26
Mississippi	88.51	28.18	38.52	33.30
North Carolina	70.21	27.23	42.82	29.95
South Carolina	68.20	55.60	27.17	17.23
Tennessee	71.49	39.20	50.75	10.04
Texas	82.32	35.64	35.02	29.34
Virginia	79.82	41.37	34.66	23.97
West Virginia	81.24	35.52	58.29	6.18

SOURCE: U.S. Department of Health, Education and Welfare, *Fall Enrollment in Higher Education 1971* (Washington: U.S. Government Printing Office, 1973). As published in Kenneth E. Quindry, William A. Perry and Irma Perry, *State and Local Potential to Support Higher Education* (Knoxville: The University of Tennessee, Center for Business and Economic Research, 1976) Table 88.

Table 2

Average Cost* of FTE Students in Public Institutions, by Type of Institution, by Region and SREB State, 1972

Region and State	All Institutions	Universities	Other Four-Year	Two-Year
New England	$2,184	$3,420	$1,484	$1,121
Middle Atlantic	2,745	3,924	2,864	1,711
North Central	2,578	3,348	1,777	1,629
SREB	2,323	3,304	2,014	1,417
Mountain	2,295	2,685	1,526	1,347
Pacific	2,239	5,471	1,807	1,219
U.S.	2,428	3,532	2,032	1,423
SREB States				
Alabama	2,349	2,859	2,693	1,003
Arkansas	2,101	3,008	1,358	1,337
Florida	2,439	4,298	2,290	1,541
Georgia	2,589	4,428	2,390	1,129
Kentucky	2,819	3,817	1,845	—
Louisiana	1,739	2,306	1,461	972
Maryland	2,500	3,205	2,242	1,751
Mississippi	2,172	3,848	1,705	1,294
North Carolina	2,830	5,191	2,079	1,756
South Carolina	2,603	2,378	3,646	1,686
Tennessee	2,251	3,117	1,692	1,698
Texas	2,109	2,757	2,156	1,267
Virginia	2,343	3,451	1,822	1,183
West Virginia	1,801	2,505	1,436	1,191

*Costs include education and general fund expenditures only.

SOURCE: See citation for Table 1 and U.S. Department of Health, Education and Welfare, *Financial Statistics of Institutions of Higher Education, Current Funds Revenues and Expenditures* (Washington: U.S. Government Printing Office, 1974), pp. 16-135, as published in Quindry, Perry and Perry, Table 90.

Table 3

Percentage of Population Aged 18-34 Enrolled as FTE Students, Public and Private Institutions, by Region and SREB State, 1972

Region and State	Public	Private	Total
New England	7.73	8.52	16.24
Middle Atlantic	7.68	5.26	12.94
North Central	10.74	3.29	14.03
SREB	9.40	2.41	11.81
Mountain	14.53	2.50	17.03
Pacific	14.95	2.08	17.03
Total	10.39	3.55	13.95
SREB States			
Alabama	9.45	1.85	11.30
Arkansas	9.25	1.78	11.02
Florida	9.96	2.48	12.44
Georgia	7.67	1.95	9.62
Kentucky	8.92	2.24	11.16
Louisiana	10.61	1.86	12.47
Maryland	9.10	2.17	11.27
Mississippi	11.81	1.53	13.34
North Carolina	8.50	3.60	12.10
South Carolina	6.87	3.20	10.08
Tennessee	8.74	3.48	12.22
Texas	10.67	2.29	12.96
Virginia	8.34	2.11	10.45
West Virginia	11.14	2.57	13.72

SOURCE: See citation for Table 1; and U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, No. 500 (May 1973), p. 2, as published in Quindry, Perry and Perry, Table 89.

Table 4

Percentage of General Fund Revenues from Own Sources Contributed to Financing Higher Education, Southern States, Selected Years, 1967 to 1976

State	Percentage Allocation			
	1976	1974	1970	1967
Alabama	18.61	16.72	16.10	15.93
Arkansas	15.36	12.50	13.35	14.07
Florida	11.10	10.25	10.47	9.29
Georgia	11.32	11.36	13.77	10.71
Kentucky	16.08	14.61	18.48	17.54
Louisiana	10.87	9.77	11.91	13.44
Mississippi	15.93	15.84	14.90	14.25
North Carolina	19.33	15.80	16.11	14.90
South Carolina	14.42	14.31	12.47	11.02
Tennessee	13.62	12.73	14.28	14.50
Virginia	13.20	12.87	12.04	10.99
All States	12.12	11.38	11.87	11.57

SOURCE: Kenneth E. Quindry, William A. Perry and Irma Perry, *State and Local Potential to Support Higher Education* (Knoxville: Center for Business and Economic Research, The University of Tennessee, 1976), Table 87; and U.S. Bureau of the Census, *Governmental Finances in 1975-76*, Series GF76, No. 5, Tables 17 and 18.

Table 5

Utilization of State and Local Tax Ability, the SREB States, the 50-States, and Six Geographic Regions, 1976

Region and State	Utilization Percentage
New England States	105.3
Middle Atlantic States	111.9
North Central States	89.3
SREB	80.9
Mountain States	90.2
Pacific States	111.2
U.S.	95.4
SREB States	
Alabama	73.7
Arkansas	73.5
Florida	78.1
Georgia	83.3
Kentucky	81.9
Louisiana	82.7
Maryland	98.7
Mississippi	88.4
North Carolina	82.3
South Carolina	81.9
Tennessee	78.2
Texas	75.9
Virginia	82.0
West Virginia	83.9

SOURCE: Kenneth E. Quindry and Niles Schoening, *State and Local Revenue Potential, 1976* (Atlanta: Southern Regional Education Board, 1977), Table 21.

Table 5A

State-Local Tax Ability and Effort Indexes

State	Ability	Effort	Ability (per 1,000 PI)	Effort
Alabama	82.3	63.5	104.1	80.4
Arkansas	81.0	62.5	101.4	78.2
Florida	95.6	78.4	100.8	82.6
Georgia	86.3	75.3	99.8	87.1
Kentucky	87.1	74.8	104.5	89.7
Louisiana	96.2	83.4	115.3	99.9
Maryland	106.6	110.3	97.7	101.1
Mississippi	72.4	67.1	102.6	95.1
North Carolina	84.5	72.9	100.5	86.8
South Carolina	78.9	67.8	100.1	86.0
Tennessee	85.8	70.4	102.1	83.8
Texas	101.4	80.7	105.7	84.1
Virginia	98.2	84.5	101.0	86.9
W. Virginia	91.3	80.3	109.3	96.2
Regions				
North East	99.5	109.8	96.8	106.9
Middle Atlantic	106.9	125.5	98.9	116.0
North Carolina	101.1	94.5	98.2	91.9
SREB	92.0	78.0	103.0	87.4
Mountain	96.5	91.2	105.3	99.5
Pacific	108.1	126.1	98.7	115.1
50 states	100.0	100.1	100.0	100.0

SOURCE: SREB, State and Local Revenue Potential, 1976, Table 21.

50 state average = 100
columns 1 and 2 = per capita
columns 3 and 4 = per $11,000 of personal income
U.S. = 100

Table 6

State and Local Net Underutilized Potential, Southern States, Selected Years, 1967 to 1976

State	Underutilized Potential (In Millions)			
	1976	1974	1970	1967
Alabama	$ 614.8	$464.7	$265.6	$193.4
Arkansas	350.4	267.3	157.4	77.4
Florida	1,362.3	770.3	477.1	239.0
Georgia	555.0	402.0	309.5	180.7
Kentucky	418.3	354.9	182.6	155.2
Louisiana	495.5	339.5	219.0	144.9
Mississippi	153.4	80.6	6.1	29.1
North Carolina	631.9	453.0	240.9	165.7
South Carolina	313.9	209.4	151.7	96.4
Tennessee	608.6	415.4	253.1	209.8
Virginia	688.9	496.7	271.3	253.1

SOURCE: Quindry, Perry and Perry, *op. cit.*, Table 92; and Kenneth E. Quindry and Niles Schoening, *State and Local Revenue Potential, 1976* (Atlanta: Southern Regional Education Board, 1977), Table 21.

Table 7

Additional Potential for Financing Post Secondary Education Southern States, Selected Years, 1967 to 1976

State	Additional Potential (In Millions)			
	1976	1974	1970	1967
Alabama	$114.4	$77.7	$42.8	$ 30.8
Arkansas	53.8	33.4	21.0	109.9
Florida	151.2	79.0	50.0	22.2
Georgia	62.8	45.7	42.6	19.4
Kentucky	67.3	51.9	33.7	27.2
Louisiana	53.9	33.2	26.1	19.5
Mississippi	24.4	12.8	0.9	4.1
North Carolina	122.1	71.6	38.8	24.7
South Carolina	45.3	30.0	18.9	10.6
Tennessee	82.9	52.9	36.1	30.4
Virginia	90.9	63.9	32.7	27.8

SOURCE: Quindry, Perry and Perry, *op. cit.*, Table 93; and Tables 2 and 3, this report.

Table 8

Underutilized Potential for Post Secondary Education Amounts Needed to Meet 50-State Average Support and Enrollments and Underutilized Potential Beyond Requirements Southern States, 1972 (Amounts in Thousands)

State	Potential For Post Secondary Education 1972	Additional Appropriations Required To Meet		Potential Beyond That Needed To Meet	
		50-State Average FTE Student Appropriations	Average Enrollment Levels at Average FTE Students Appropriations Levels	Requirements in Column 2	Requirements in Columns 2 and 3
Alabama	$67,500	$10,710	$25,644	$56,790	$31,146
Arkansas	25,900	657	16,661	25,243	8,582
Florida	76,900	0	33,795	76,900	43,105
Georgia	49,500	0	74,945	45,900	-29,045
Kentucky	50,000	0	37,940	50,000	12,060
Louisiana	26,300	6,517	16,203	19,783	3,580
Mississippi	14,700	7,632	3,675	7,068	3,393
North Carolina	72,000	0	39,813	72,000	32,187
South Carolina	26,000	0	41,041	26,000	-15,041
Tennessee	42,900	0	22,554	42,900	20,346
Virginia	56,100	5,458	53,702	50,642	- 3,060

SOURCE: Quindry, Perry and Perry, *op. cit.*, Tables 94 and 96.

Table 9

State and Local Tax Collections by Source as Percentages of Total Collections, for SREB States, Regions and the United States, 1976

State and Region	General Sales and Gross Receipts	Selective Sales and Gross Receipts	General Property Taxes	Income Taxes		Other*
				Individual	Corporate	
All states including District of Columbia	20.2	9.3	36.0	15.5	4.6	14.5
New England States	11.9	9.8	47.2	14.9	5.8	10.4
Middle Atlantic States	16.9	8.3	36.7	19.7	5.7	12.6
North Central States	19.4	8.1	37.9	17.2	4.2	13.3
Mountain States	24.0	9.5	32.3	12.7	3.2	18.3
Pacific States	22.3	6.0	41.6	14.1	5.3	10.7
SREB States	24.1	13.5	27.3	11.2	3.5	20.3
23 Alabama	30.0	19.9	12.2	14.1	3.5	20.1
24 Arkansas	24.8	10.9	22.0	15.2	5.8	21.4
25 Florida	25.7	17.1	33.1	—	3.7	20.3
26 Georgia	24.3	11.1	32.0	15.0	4.8	12.8
27 Kentucky	21.6	11.5	19.0	20.5	7.1	20.3
28 Louisiana	30.1	8.8	14.7	5.0	3.7	37.7
29 Maryland	12.4	9.2	29.4	33.8	3.2	12.0
30 Mississippi	36.5	9.4	22.1	9.0	3.5	19.5
31 North Carolina	20.1	12.7	24.2	20.5	5.3	17.2
32 South Carolina	26.2	12.3	23.1	17.2	5.6	15.6
33 Tennessee	33.3	14.1	24.9	1.0	5.9	20.8
34 Texas	23.5	15.8	35.8	—	—	24.9
35 Virginia	16.5	14.3	27.7	19.6	4.2	17.7
36 West Virginia	37.2	12.5	17.9	13.0	1.9	17.5

*Selective motor fuels sales taxes are included in this column.

SOURCE: Kenneth E. Quindry and Niles Schoening, *State and Local Revenue Potential, 1976* (Atlanta: Southern Regional Education Board, 1977), Table 18.

Table 10

Utilization of State and Local Tax Potential, Arkansas, 1976

Type of Tax	Amount Collected Above Yield Collectible at Average Rate	Amount Collected Below Yield Collectible at Average Rate
General Sales and Gross Receipts	$	$ 15,863,000
Selective Sales and Gross Receipts		
Alcoholic Beverages		2,175,000
Tobacco Products	16,148,000	
Insurance	1,255,000	
Public Utilities		12,518,000
Other		12,799,000
State Death and Gift		9,821,000
General Property		233,882,000
Individual Income		89,346,000
Corporate Income		6,220,000
State Alcoholic Beverage License		489,000
Motor Vehicle License		1,964,000
Motor Fuels	29,755,000	
Severance		9,273,000
Transfer		3,228,000
TOTALS	$47,158,000	$397,579,000
Net Unutilized Potential (Excess of below average yields over above average yields)	+$350,421,000	

SOURCE: Kenneth E. Quindry and Niles Schoening, *op. cit.*, Table 25.

Population, Occupational, and Economic Factors Related to Higher Education

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Introduction

This presentation is a statistical analysis of selected population, social, occupational and economic factors that affect higher education levels, with an emphasis, where possible, on their relationship to the University of Arkansas at Little Rock.

The analysis will be concerned with changes occurring over the past 10 or 15 years in each of the factors and those projected to occur in each over the next several years.

Geographical areas to be discussed include the United States, Arkansas, Pulaski and adjacent counties (PAC), and the Little Rock-North Little Rock Standard Metropolitan Statistical Area (SMSA).[1]

Population, Occupational, and Economic Factors

Total Population

Arkansas' 1977 population estimate of 2,144,000 represents an 11.5 percent (221,000) increase over the 1970 count of 1,923,295. The estimated growth rate for the nation during this seven-year period was 6.4 percent. Of the 16 states in the nation's southern region, only Florida and Texas were estimated to have had growth rates exceeding Arkansas'; those rates were 24.5 and 14.6 percent, respectively. Migration accounted for 57.9 percent and natural increase for 42.1 percent of the state's estimated growth.[2] As shown in Table 1, the state's 1980 population is projected to total 2,242,807, indicating an absolute growth of 319,512 over the 1970 count and a relative growth of 16.6 percent. During the previous 10 years, relative growth was 7.7 percent.

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1 The Pulaski and adjacent counties area includes Faulkner, Grant, Jefferson, Lonoke, Perry, and Saline counties and the SMSA is comprised of Pulaski and Saline counties only.

2 U.S. Department of Commerce, Bureau of the Census, *Commerce News*, CB78-13, "Census Bureau Releases 1977 State Population Estimates — Trends of Early Decade Appear to be Continuing" (Washington: Commerce Department, January 23, 1978).

The 1980 populations of the PAC and SMSA regions are projected to total 586,818 and 393,522 respectively, representing increases of approximately 22.0 percent over the 1970 counts. These regional numbers are expected to account for 26.2 percent and 17.5 percent respectively, of the projected 1980 Arkansas total.

College Age Population

For purposes of analysis, the college population is divided into three groups: those persons 18-24, 25-34, and 35 and over.

Absolute increases projected to occur in the primary college age group, ages 18-24, during the 1970's exceed those experienced in the 1960's for Arkansas and its PAC and LR-NLR SMSA regions. (See Table 2.) However, growth rates in each of these areas are projected to fall below those experienced during the 1960's. Projected 1970-1980 growth rates for Arkansas, the PAC and LR-NLR SMSA regions are 29.7, 34.1, and 37.3 percent, respectively. Even though this age group is projected to increase nationally by 24.3 percent, both the absolute and relative increases are expected to be considerably less than was experienced during the 1960's.

Substantial growth is projected for the 25-34 year age group; 1970-1980 growth rates for the study areas range from 45.2 percent for the nation to 49.4 percent for the LR-NLR SMSA.

The nation's population of 35 and over is projected to increase by 11.3 percent between 1970 and 1980. Growth rates for the state, PAC, and the LR-NLR SMSA are projected to be significantly greater than for the nation: 19.4, 24.2 and 21.3 percent, respectively. The projected 1980 totals for the age group are as follows: Arkansas, 1,005,495; PAC, 243,834; and the LR-NLR SMSA, 159,624. Comparable 1970 Census numbers were: 842,457; 196,279; and 131,610, respectively.

The 1970 census shows that in the 15 to 24 year old segment of the population, 12.5 percent in Arkansas and 15.7 percent in the nation were enrolled in college. The national enrollment had increased to 18.6 percent in 1975 according to a 1976 census survey.[3]

For persons ages 25-34, the 1970 census reflected that 3.0 percent of the state's age group were enrolled in college as compared to 5.5 percent for the nation. The 1976 census survey indicated that the national enrollment proportion had increased to 8.1 percent by 1975.[4]

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3 U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 303, "School Enrollment — Social and Economic Characteristics of Students: October 1975," Table 1, p. 9 (Washington: Government Printing Office), 1976.

4 Ibid.

The 1970 school enrollment of persons 35 years old and over accounted for only 1.0 percent of the nation's, 0.6 percent of the state's, and 0.7 percent of the SMSA's in the age group. Survey results indicate that the 1975 national proportion rose to 1.4 percent, of which 95.2 percent were college students.[5]

Persons 35 years of age and over account for an increasing share of total college enrollment, from 8.6 percent in 1972 to 11.5 percent in 1977.[6]

The relative distribution of the nation's 1977 college enrollment by age group is as follows: 14-24, 64.2 percent; 25-34, 24.3 percent; and 35 and over, 11.5 percent.[7]

Enrollment

University enrollment data shown in Table 3 indicates that 90.0 percent of the school's 1977 state resident students were from the LR-NLR SMSA and an additional 4.4 percent were residents of the PAC region, Pulaski and Saline counties excepted.

The 1977 PAC region enrollment proportion is 12.0 percent greater than it was in the fall of 1969, the year in which UALR joined the University of Arkansas system.

Educational Attainment

Educational attainment of the population 25 years of age and over is shown in Table 4. A comparison of 1970 LR-NLR SMSA statistics to national educational attainment data reveals the following: 1) median school years completed, 12.2 (SMSA) to 12.1 (national); 2) percent high school graduates, white 61.4 (SMSA) to 54.5 (national) and black, 29.6 (SMSA) to 31.4 (national); and percent with 4 or more years of college, white 11.8 to 11.3 and black 4.8 to 4.4. Even though the SMSA's educational attainment levels compare favorably to the national average, those for the state do not. In fact, the percent (6.7) of Arkansas' 1970 total population who had completed four or more years of college ranked last among the 50 states. The national average was 10.7 percent.

Occupational Division Employment

Employment by major occupational divisions (actual 1970 and projected 1980) are contained in Table 5.

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5 Ibid., Table A, p.1.

6 U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 321, "School Enrollment — Social and Economic Characteristics of Students: October, 1977," Table 4, p. 5 (Washington: Government Printing Office), March 1978.

7 Ibid.

Historically, the majority of college graduates are divided into the employment categories of 1) professional, technical and kindred workers, 2) managers and administrators, and 3) sales workers. The state and SMSA do not compare favorably with the nation in the professional, technical and kindred workers category. The projected percentage for the nation is 15.0; the projection for Arkansas is 10.5 percent and for the SMSA, 14.9 percent. If the state's share were equal to that anticipated for the nation, we would have an additional 38,000 (approximate) persons in this category in 1980. State and SMSA projected shares in the categories, "managers and administrators" and "sales workers," do compare favorably with national proportions, however.

Per Capita Income

The data in Table 6 indicates that 1970-1980 per capita income growth in the state and its two regions will continue to increase at rates exceeding the national average. However, in none of the three areas will projected 1980 per capita income equal the national average.

General Revenue

The state's general revenue is projected to increase from $518 million in 1975 to $933 million in 1980 — an increase of $415 million or 80.1 percent.[8]

Higher Education

In Arkansas, higher education accounted for 11.0 percent of all direct general expenditures by state and local governmental units in fiscal year 1975-1976 compared to 9.4 percent in 1965-1966.[9] Nationally, higher education accounted for 9.5 percent of all 1975-1976 direct general expenditures.[10] The rate of increase in higher education expenditures by the state and nation over the past 10-year period was essentially identical.

On a per capita expenditure basis, Arkansas ranked 40th among the states and the District of Columbia as to the level of expenditures for higher education. The state's per capita expenditure was $94.36 and the national median, $119.54.[11]

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8 Revenue projections prepared by Community and Government Affairs Section, Industrial Research and Extension Center, University of Arkansas, April 1978.

9 U.S. Department of Commerce, Bureau of the Census, "Government Finances in 1975-76," Table 18, p. 52, GF 76, No. 5, Sept. 1977, and "Government Finances in 1965-66," Table 18, p. 34, GF No. 13, 1967 (Washington: Government Printing Office).

10 Ibid.

11 "Government Finances in 1975-1976," loc. cit., Table 22, p. 64.

Table 1

Total Population; 1960, 1970, 1975 and Projected 1980

Area	1960 Census	1970 Census	1975 Estimate	1980 Projection	Change, 1960-1970 Absolute	Change, 1960-1970 Percent	Change, 1970-1980 Absolute	Change, 1970-1980 Percent
United States	179,323,175	203,235,298	213,540,000[a]	224,066,000[a]	23,912,123	13.3	20,830,702	10.2
Arkansas	1,786,272	1,923,295	2,086,000[b]	2,242,807	137,023	7.7	319,512	16.6
Pulaski & Adjacent Counties[1]	415,384	481,791	530,500	586,818	66,407	16.0	105,027	21.8
Little Rock-No. Little Rock SMSA[2]	271,936	323,296	359,300	393,522	51,360	18.9	70,226	21.7

[1]Includes Faulkner, Grant, Jefferson, Lonoke, Perry, Pulaski, and Saline counties.

[2]Includes Pulaski and Saline counties.

[a]Includes Armed Forces overseas.

[b]The 1975 Arkansas population estimate shown here does not include the 24,178 Vietnamese refugees temporarily housed at Fort Chaffee.

SOURCES: U.S. data from Current Population Reports, Series P-25, No. 704, *Projections of the Population of the United States: 1977 to 2050* and the Bureau of the Census; Arkansas data from the Bureau of the Census and from projections prepared by the Industrial Research and Extension Center, University of Arkansas, Little Rock, February, 1978.

Table 2

Population, Ages 18-24 and 25-34; 1960, 1970, 1975 and Projected 1980

Area	1960 Census	1970 Census	1975 Estimate	1980 Projection	Change, 1960-1970 Absolute	Change, 1960-1970 Percent	Change, 1970-1980 Absolute	Change, 1970-1980 Percent
				Ages 18-24				
United States	15,604,167	23,697,340	27,604,000[a]	29,462,000[a]	8,093,173	51.9	5,764,660	24.3
Arkansas	151,843	211,056	259,547[b]	273,761	59,213	39.0	62,705	29.7
Pulaski & Adjacent Counties[1]	38,505	57,219	68,071	76,727	18,716	48.6	19,508	34.1
Little Rock-No. Little Rock SMSA[2]	25,136	36,973	44,224	50,780	11,837	47.1	13,807	37.3
				Ages 25-34				
United States	22,818,310	24,907,429	30,918,000[a]	36,172,000[a]	2,089,119	9.2	11,264,571	45.2
Arkansas	180,582	214,772	261,735[b]	313,691	25,190	13.5	98,919	46.1
Pulaski & Adjacent Counties[1]	50,844	60,616	76,027	90,425	9,772	19.2	29,809	49.2
Little Rock-No. Little Rock SMSA[2]	35,654	43,350	55,240	64,775	7,696	21.6	21,425	49.4

[1]Includes Faulkner, Grant, Jefferson, Lonoke, Perry, Pulaski, and Saline counties.

[2]Includes Pulaski and Saline counties.

[a]Includes Armed Forces overseas.

[b]The 1975 Arkansas population estimate shown here does not include the 24,178 Vietnamese refugees temporarily housed at Fort Chaffee.

SOURCES: U.S. data from Current Population Reports, Series P-25, No. 704, *Projections of the Population of the United States: 1977 to 2050* and from the Bureau of the Census, Arkansas data from the Bureau of the Census and from projections prepared by the Industrial Research and Extension Center, University of Arkansas, Little Rock, February, 1978.

Table 3

Enrollment of Arkansas Residents, UALR, 1969 and 1977

	Fall Enrollment		Percent of Resident UALR Enrollment	
	1969	1977	1969	1977
Total UALR Resident Enrollment[1]	2,918	8,515		
Pulaski and adjacent counties[2]	2,403	8,036	82.4	94.4
Little Rock-North Little Rock SMSA[3]	2,247	7,667	77.0	90.0

[1]Total enrollment, which includes all non-resident students, was 3,330 in 1969 and 8,789 in 1977.

[2]Includes Faulkner, Grant, Jefferson, Lonoke, Perry, Pulaski, and Saline counties.

[3]Includes Pulaski and Saline counties.

SOURCE: Arkansas Department of Higher Education.

Table 4

Educational Attainment of the Population 25 Years of Age and Over; 1960 and 1970

Area	Median School Year Completed		1970			
			Percent High School Graduates		Percent with 4 or More Years of College	
	1960	1970	White	Black	White	Black
United States	10.6	12.1	54.5	31.4	11.3	4.4
Arkansas	8.9	10.5	43.9	17.2	7.3	3.2
Pulaski and Adjacent Counties[1]	10.4	12.1	57.5[a]	25.8	10.5[a]	5.1
Little Rock-North Little Rock SMSA[2]	11.2	12.2	61.4[a]	29.6	11.8[a]	4.8

[a]Includes races other than white or black.

[1]Includes Faulkner, Grant, Jefferson, Lonoke, Perry, Pulaski, and Saline counties.

[2]Includes Pulaski and Saline counties.

SOURCES: Compiled from 1960 and 1970 censuses of population.

Table 5

Employment by Occupational Divisions, 1970 and Projected 1980[a]

Occupational Division	United States		Arkansas				Little Rock-No. Little Rock SMSA			
	1970 Percent	1980 Percent	1970 Employment Number	1970 Employment Percent	1980 Employment Number	1980 Employment Percent	1970 Employment Number	1970 Employment Percent	1980 Employment Number	1980 Employment Percent
TOTAL	100.0	100.0	663,560	100.0	843,502	100.0	133,145	100.0	187,705	100.0
White-collar workers	48.2	50.4	254,960	38.4	346,028	41.0	68,995	51.8	101,791	54.2
Professional & technical workers	14.8	15.0	69,150	10.4	88,250	10.5	18,380	13.8	28,024	14.9
Managers & administrators	8.3	10.5	64,460	9.7	92,749	11.0	15,285	11.5	23,279	12.4
Sales workers	7.1	6.2	40,080	6.0	52,322	6.2	10,360	7.8	14,205	7.6
Clerical workers	18.0	18.7	81,270	12.2	112,707	13.3	24,970	18.8	36,283	19.3
Blue-collar workers	35.9	33.4	266,790	40.2	359,386	42.6	46,365	34.8	61,663	32.8
Craft & kindred workers	13.9	13.3	87,580	13.2	125,415	14.9	17,590	13.2	24,636	13.1
Operatives	17.6	15.3	136,380	20.6	184,678	21.9	23,220	17.4	29,959	15.9
Nonfarm laborers	4.5	4.8	42,830	6.5	49,273	5.8	5,555	4.2	7,068	3.8
Service workers	12.8	13.7	88,210	13.3	101,087	12.0	17,095	12.8	23,756	12.7
Private household workers	1.5	1.1	19,310	2.9	12,905	1.5	2,690	2.0	1,880	1.0
Other service workers	11.3	12.6	68,900	10.4	88,182	10.5	14,405	10.8	21,876	11.7
Farm workers	3.1	2.5	53,600	8.1	37,001	4.4	690	0.5	495	0.3

[a]The 1980 projections represent an arithmetic interpolation between 1974 estimates and 1985 projections.

SOURCES: Compiled from: 1) U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*, "Revised Occupational Projections to 1985," pp. 10-22, November, 1976 (Government Printing Office: Washington, D.C.) and 2) Arkansas Employment Security Division, Research and Statistics, *Occupational Trends: 1974-1985, Arkansas*, Table 3, pp. 27-40, February, 1977 and *Occupational Trends: 1974-1985 Little Rock-North Little Rock SMSA*, Table 3, pp. 25-37, April, 1977 (Little Rock, Ark.).

Table 6

Per Capita Personal Income; 1960, 1970, 1975 and Projected 1985

(in dollars)

Area	1965	1970	1975	1980	Change 1965-1975		Change 1970-1980	
					Absolute	Percent	Absolute	Percent
United States	2,785	3,966	5,902	8,824	3,117	111.9	4,858	122.5
Arkansas	1,886	2,878	4,617	7,426	2,731	144.8	4,548	158.0
Pulaski and adjacent counties[1]	2,317	3,358	5,287	8,220	2,970	128.2	4,862	144.8
Little Rock-No. Little Rock SMSA[2]	2,532	3,633	5,619	8,610	3,087	121.9	4,977	137.0

[1]Includes Faulkner, Grant, Jefferson, Lonoke, Perry, Pulaski, and Saline counties.

[2]Includes Pulaski and Saline counties.

SOURCES: 1965, 1970 and 1975 Per Capita Personal Income derived from *Arkansas Personal Income Handbook*, August, 1977, prepared by Industrial Research and Extension Center, College of Business Administration, University of Arkansas, and 1980 Per Capita Personal Income from: Community and Government Affairs Section, IREC, College of Business Administration, University of Arkansas, Little Rock, Ark.

Summary

The following statements are summary comments concerning the relationship between the factors discussed and higher education:

1. Arkansas' population growth is expected to continue to follow the trend experienced since 1960. The state's 1980 population is projected to total 2,242,807, indicating a growth of 319,512 (16.6 percent) over the 1970 census count of 1,923,295. The 1980 SMSA count is projected to total 393,522, a growth of 70,226 (21.7 percent) since 1970. Projections for these areas indicate that growth will continue into the future.

2. As shown in Table 2, absolute and relative increases are projected to occur between 1970 and 1980 in the state's and SMSA's primary college age group (those persons 18-24) although the relative increases are expected to be less than those of the 1960's. Arkansas' 1980 population, ages 18-24, is projected to total 273,761 and the SMSA's, 50,780, indicating 1970-1980 relative changes of 29.7 and 37.3 percent, respectively. The state and SMSA numbers are expected to decline by about 4 percent or less between 1980 and 1985.

3. Substantial growth is projected for the 25-34 year age group; 1970-1980 growth rates of 46.1 percent for the state and 49.4 percent for the SMSA indicate 1980 populations of 313,691 and 64,775 respectively. The state and SMSA growth pattern for this age group is expected to continue between 1980 and 1985.

4. In 1980, the state and SMSA populations 35 and over are projected to total 1,005,495 and 159,624 respectively. Projected 1970-1980 growth rates of 19.4 percent for the state and 21.3 percent for the SMSA are below those anticipated for the two other age groups. However, state and SMSA 1980-1985 absolute growth projections for the age group are substantial.

5. College enrollment data, from the 1970 census, for persons 15 to 24 indicate that 12.5 percent of Arkansas' and 15.7 percent of the nation's population in the age group were in college. The national proportion had increased to 18.6 percent by 1975.

   For those persons 25-34 years of age, 3.0 percent of the state's 1970 population and 5.5 percent of the nation's were in college. National enrollment accounted for 8.1 percent of the 1975 age group total.

   School enrollment of persons 35 years of age and over accounted for only 0.6 percent of the 1970 Arkansas age group and 1.0 percent of the nation's. The national proportion rose to 1.4 percent in 1975, of which 95.2 percent were college students.

6. The nation's 1977 college enrollment was distributed by age groups as follows: 14-24, 64.2 percent; 25-34, 24.3 percent; and 35 and over, 11.5 percent.

7. The LR-NLR SMSA accounted for 90.0 percent of UALR's 1977 Arkansas resident enrollment, compared to 77.0 percent in 1969.

8. Educational attainment of the 1970 population 25 and over is shown in Table 4. Even though the SMSA's educational attainment levels compare favorably to the national average, those for the state do not. Only 43.9 percent of Arkansas' white population and 17.2 percent of its black population were high school graduates, compared to national proportions of 54.5 and 31.4 percent, respectively. In fact, only 6.7 of the Arkansas 25-year and over age group had completed four or more years of college, compared to a national average of 10.7 percent. The state proportion ranked last among the 50 states.

9. The occupational categories of the majority of college graduates are 1) professional, technical and kindred workers; 2) managers and administrators, and 3) sales workers. The state and SMSA do not compare favorably with the nation in respect to the proportion of 1980 total employment projected for the "professional, technical, and kindred workers" category. The projected proportion for the nation is 15.0 percent; Arkansas, 10.5 percent; and the SMSA, 14.9 percent. State and SMSA shares projected for the "managers and administrators," and "sales workers" categories do compare favorably with national proportions, however.

10. The data in Table 6 indicates that 1970-1980 per capita income growth in the state and its two regions will continue to increase at rates exceeding the national average. However, in none of the three areas will projected 1980 per capita income equal the national average.

11. Arkansas' General Revenue is projected to increase from $518 million in 1975 to $933 million in 1980 — a growth of $415 million or 80.1 percent.

12. Arkansas ranked 40th among the states and the District of Columbia as to the level of expenditures for higher education in fiscal years 1975-1976. The state's per capita expenditure was $94.36 and the national median, $119.54.